

# THE LIGHT OF ASIA

By Frank G. Carpenter.

**A Visit to Its Great Refineries on the Irawadi River—In the Oil Fields—The World's First Petroleum Trust—Making Wax Candles for Buddha—The Ruby Mines—Jewels More Valuable Than Diamonds—Burmese Jade and How It Is Quarried for the Chinese Markets.**

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SYRIAM, Burma, 1910.

Syriam promises to become the real light of Asia. The Burmans are Buddhists and they worship the prophet whom Edwin Arnold has called the light of the continent. In this awakening of Asia in the twentieth century they want a material rather than a spiritual light, and for that they are looking to Syriam. The place lies on the Irawadi between Rangoon and the sea and it is the site of the refineries of the Burma Oil Company.

At present the oil trusts of the world are fighting for Asia. Our Standard Oil Company has practically monopolized Japan, Korea and a large part of China. It has its stations on every river and its agents in every large city. The Russian petroleum companies are furnishing the illumination for Siberia and the lands east and south of the Caspian sea, while the Dutch East Indies, Siam and a large part of China are supplied by the oil fields of Sumatra and Borneo. Down here in Burma the people are using oil from the wells along the Irawadi river. They have monopolized Burma, and are pushing their trade among the millions of India.

## The Standard Crowded Out.

These people have crowded the Standard Oil Company out of their market. It tried to come in and asked the government's permission to build its own tanks at the mouth of the river. This was refused, and as a result our oil must be shipped here in tin cases. This makes it too costly in competition with the native product, and it cannot inaugurate the machinery of distribution such as it has in other parts of the far east. All along the west coast of the Pacific the storage tanks of the Standard Oil Company are to be seen. They are among the big features of every large port, and connected with them are great factories where tin cans are made and the petroleum is put up for shipment over the country. The oil is pumped into tank steamers at San Francisco and pumped out into tanks which hold tens of thousands of barrels at Shanghai, Tientsin and even at Hankow on the Yangtze River, the latter port being six hundred miles in the interior of China.

Here on the Irawadi there are similar tanks, but they belong to the British and are the property of the Burma Oil Company. I can see at least two score or so from where I am writing. Each tank will hold a million gallons of oil, and altogether they contain a supply which could furnish one gallon to every man, woman and child in the United States and leave some to spare.

## Burma's Oil Fleet.

The Burma Oil Company has its own fleet of tank steamers. These have a capacity of 500,000 gallons each, and are intended for shipping petroleum to other parts of the world. It has also oil barges of million gallons each for bringing the crude petroleum down the Irawadi from the native oil fields up country. These are situated about 270 miles in the interior, and pipe lines are now being laid from them to Syriam. The pipes are already as far as Rangoon, and within a few months they will be running into the refineries here. At first the pipes were laid on the surface of the ground, but they were affected by the changes of temperature, and are now being buried.

## An East Indian Monopoly.

Burma has the third largest oil trust of the world. The Standard comes first, then Russia, and after that Burma. The output of the Burmese company is now about 150,000,000 gallons per annum and it sells for something like \$3,000,000.

This is only one-eighth of the output of the Standard, and the value equals only one-thirtieth that of the United States product. The oil business here, however, as far as modern methods are concerned, is only in its infancy, and the possibilities are enormous. It is just twenty-three years since the first oil wells were drilled, although the people had been using oil gathered in other ways for a generation before. It was along back in 1887 that the American system of getting oil was introduced, and now the fields are spotted with derricks. Americans have been brought in to superintend the sinking of the wells, and seventy such men are now so employed at \$5 per day.

In the earlier stages of the drilling the oil was found at a depth of 500 feet, but recent wells have gone down several thousand feet, and many of those now producing are one or two thousand feet deep. There are but few flowing wells and the average capacity is far under that of the Uni-

ted States. We have many wells which yield 100 and more barrels daily. The average well in Burma yields about fourteen barrels, and many less.

Since the beginning of the drilling the production has steadily increased. In 1890 it was only 4,400,000 gallons. Eight years later it was 20,000,000, and in 1902 it rose to 55,000,000. The following years the output was 39,000,000 more, and in 1908 the oil raised approximated 150,000,000 gallons. Oil is now found on the islands off the coast of this country and new fields are being discovered in the hills of the interior. So far the most of the product comes from two parallel ravines, the wells being sunk along the cliffs on both sides and in the space between. The most of the oil seems to lie below the margins of the ravines.

## The World's First Oil Trust.

It is strange to find that the first oil trust of the world was founded in faraway Asia. The petroleum business of Burma has always been a monopoly. It was in existence long before our Pennsylvania oil was discovered, being then in the hands of twenty-four families who belonged to two villages located in the Yenangyang oil country, from which most of the petroleum still comes. Generations ago these families had taken possession of the oil fields, and had so fixed it that no one outside their own members could dig for petroleum or own an oil well. The families were known as Yoya, and their chiefs were called Twinsayo. If a family had no descendants it could sell only to the other members of the combined families; so that the corporation was decidedly close.

The Yenangyang had their own rules as to the digging and sale of the oil. These continued in force until a little over half a century ago when King Mindaon, Thibaw's great predecessor, introduced the monopoly system by which the oil was sold to him alone, the same families producing it.

## Among the Miners.

I understand that many of those families are still taking out oil as their forefathers did. Some have been bought out by the trust, but others still compete, working the old way. Their oil comes from wells which are seldom more than 250 feet deep. They break the rock by dropping a pointed lump of iron, weighing about 150 pounds, upon it again and again, and then carry the debris out in buckets.

When the oil strata is reached they wait for the well to fill and then raise the petroleum in buckets, which are filled by men lowered in rope slings to the bottom. There is much gas in the wells, and the miners can stay below but a few minutes. In order to make the most of their time, they blindfold their eyes before descending, tearing off the bandages when they reach the bottom, thus keeping their eyes in focus for immediate work. They use hats of palm leaves to protect their heads from the stones and earth which fall upon them from the sides of the shafts. Their product is sold to the trust, and at such rates that they can make but little more than fair wages.

The Burmese Oil Company has to pay a royalty to the government, but it is largely protected by the administration and there is little chance for outside competition. The best of its present oil fields cover only about one hundred square miles.

## Burma's Oil Refineries.

During my stay at Syriam I have gone through the refineries. The managers claim that they are the largest of the world, saying that they surpass any owned by the Standard Oil Company, which does its business in smaller institutions widely scattered throughout the United States.

The works here at Syriam cover a hundred acres or more. They are situated on the banks of the Irawadi, about sixteen miles from its mouth. The river is full of salt and it has built up a great sand bank just opposite the landing so that ships cannot come close except at high tide. The silt is so great that the little lake, inside the works, used as a water supply, has to be dug out to a depth of six or eight feet every year. I saw hundreds of coolies excavating this now dry lake. They were taking out dirt which looked like cement, and carrying it away in baskets on their heads. The deposits of the Irawadi are so rapidly filling the bed of the river that jetties similar to those we have at the mouth of the Mississippi will probably be put in.

I went through the works with the superintendent, a Scotchman named Bishop. I had my camera with me, but he objected to my photographing the refineries, although he allowed me to take snapshots of the laborers and the scenes outside the plant.

I shall not attempt to describe the processes, except to say that enormous

furnaces are kept hot with oil fires and that the boilers above them have pipes to catch the vapor as the oil boils. Refining petroleum is much like distilling whiskey. The crude oil is heated to a vapor which flows off into the cold pipes. As it strikes them the condensers and runs off as pure oil.

## Wax Candles for Buddha.

In the meantime, the residue is carried from boiler to boiler, until all the oil has been won. A part of what is left is turned into wax, and in the end there is a product which is made into a coke superior to that from coal. The wax is used chiefly for candles, which are made here in great quantities to be used in the worship of Buddha. Any one who can burn a candle before a shrine acquires merit, and the bigger the candle the greater the merit. For this reason, the candles are of all sizes, from wax matches to great, round, tapering cylinders six and a half feet tall and as thick as an elephant's leg. Such a candle brings about \$10, or 30 rupees. It will burn fifteen hours, and if consumed at a shrine will add much to one's chance of reaching Nirvana.

## Machinery and Labor.

The machinery of Syriam is up to date. It is nearly all English, although there are some Yankee inventions employed. The institution has can-making factories, and the oil is run into the cans on the premises.

The labor of the mills is almost altogether East Indian. About 6,000 men, women and boys are employed, the children ranging in age from ten years upward. I saw little Hindus who should have been in school packing candles, carrying heavy loads and doing all sorts of work. They labored with all their might, and their wages were a few cents a day. We rode about through the works on a trolley car pushed by four Hindus, and before leaving took a ride on a big automobile in and out among the great tanks where the oil is stored. There are something like forty or more of these tanks, each marked 1,000,000 gallons.

This oil trust has other refineries at Dunneadaw, on the opposite bank of the Irawadi, and it is steadily adding to its works. It makes its own barges and has almost as many departments as the Standard. I understand that the oil prices are rising and that the value of the field has quadrupled in the last year or so. The whole country is now being prospected, with a view to finding new oil territory.

## Where Rubies Come From.

Next to coal oil, the biggest monopoly in Burma is in rubies. This country produces the finest of such stones and furnishes the most of the world's supply. The industry is in the hands of the Burma Ruby Mines Company, which is operating in the Mogok valley, about ninety miles from Mandalay. There is a region there 4,000 feet above the sea, covering from fifty to one hundred square miles, which has produced more and better rubies than any other place upon earth. At times it yields as much as a half million dollars' worth of rubies a year, and about ten years ago a single stone was found weighing seventy-seven carats, which sold for more than \$100,000.

The fine ruby is more valuable than a diamond of the same weight. It is estimated that one the color of a pigeon's blood weighing five carats will sell for ten times the value of a five-carat diamond, and that the price will increase with the size. A ruby which weighed eleven carats was recently sold in England for \$35,000, whereas a diamond of that size would not bring more than \$5,000. The largest ruby known is one which came from Tibet. It weighed 2,000 carats, but it was not of the first quality. Some of the best stones of this kind are owned by native Indian rajahs, who consider them among the most beautiful of jewels.

The demand for rubies is greatly affected by the times. The panic of 1907 caused a slump in the market. All sorts of precious stones went down and for months the London demand for Burman rubies entirely ceased. The company then curtailed its production by stopping night work, and it cut the wages of the men from 32 to 24 cents a day. In 1908 no dividends were declared. The times are now better and all the mines are again working.

## In the Mogok Mines.

I understand the output of the present year will be large. The monopoly has introduced modern methods. Its pumping machinery is now worked by waterpower, and the same power generates and stores electricity, so that the mills work day and night. Much of the machinery is similar to that used in the diamond mines of South Africa. The stones are run over pulsators, which separate the heavier gravel from the lighter. In taking out the rubies the sorting is done by foreigners, and the stones are classified by them. The best go to London, which is the chief ruby market, while those of a lower grade are auctioned off to the local dealers about the mines. The latter are great gamblers, and will run up the prices if they think a stone may have a valuable center. Among the rubies are found spinels, stones which look much like the true ruby, but

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## THE COMMISSION FORM

COLUMBIA, SOUTH CAROLINA, TAKES THE NEW METHOD OF MUNICIPAL MANAGEMENT.

Columbia, S. C., April 2.—By a majority of 5 to 1, Columbia today adopted the commission form of government.

To-day's election was the culmination of a campaign begun by a local newspaper two years ago. City Council opposed the change.

The new form has all the essential features of the Des Moines and Council Bluffs plans.

There are a mayor and four salaries commissioners, all elected at large. They serve four years.

There is the initiative, the referendum and the recall.

which are not. The jewels are tested by a glass through which the ruby shows two different colors if viewed from different directions, whereas the spinel and garnet show but one. Rubies are found in a matrix in the rocks, and also in the clay. Connected with them are often sapphires, blue, yellow and green, as well as garnets and spinels.

## Jade for the Chinese.

Next to the ruby, the jade stones of Burma are of great value. They are mined in the northern part of the country and are brought to Bhamo, on the Irawadi above Mandalay, and are there sold to the Chinese. The Chinese prize jade almost as highly as pearls, rubies or diamonds. They look upon the stone as emblematic of most of the virtues, and use it much as we use the term pure gold. A fine girl is a jade girl, a beautiful hand a jade hand and a jade foot is one which is always on time. Nearly every well-to-do Chinese girl has jade earrings and bracelets and many have jade hair pins and brooches. In Burma jade is often used for ear plugs as well as for rings and other jewelry.

The jade found in northern Burma is of a beautiful green, which is greatly desired. The stone has always been regarded as the property of a tribe known as the Kachins; and its right to mining it has never been called in question by the native kings. The amount now produced sells for several hundred thousand dollars a year and in weight it aggregates something like one hundred and fifty tons. The mining is still done by natives, but it is under a lessee, who collects the government duty of 35-1-2 per cent on all taken out.

## How Jade is Quarried.

Mining jade is more like quarrying than anything else. Some of the stones, and often the best, are obtained as pebbles, but there are mines where the jade rock lies in open quarries. The stones here are of different grades, varying in quality. Some of the smaller pieces are worth their weight in gold, and little bits fit for a ring setting will sell in China for a hundred dollars or more. On the other hand, there are enormous blocks worth nothing and tons which cannot be worked by the poor tools of the natives. The mining is exceedingly primitive. The rocks are cracked by building fires upon them. They are then broken apart by crowbars and wedges and shaped up with hammers into the sizes fit for transportation. The average export value of the stone is about 60 cents a pound, that which is annually shipped down the Irawadi and by Rangoon to China selling for something like \$200,000.

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